

A NEW SPECIES OF PETROPHILE (PROTEACEAE) FROM THE WHICHER RANGE

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ABSTRACT

Petrophile latericola Keighery is described and illustrated. This newly described species is a very rare endemic of ironstone soils at the base of the Whicher Range, south-east of Busselton.

INTRODUCTION

Over the past decade the Western Australian Department of Environment and Conservation (previously the Department of Conservation and Land Management) has undertaken intensive floristic and reserve surveys of the Swan Coastal Plain (Gibson *et al.* 1994, Keighery 1999). Currently these surveys are continuing under a new program entitled "Swan Bioplan" and have been extended to include the Darling and Whicher Escarpments of their respective ranges (Keighery *et al.* 2008).

This is the fifth paper in a series on the flora and vegetation of the Whicher Range (Keighery *et al.* 2008, Keighery 2008 a & b, Keighery 2009) and formally names a very rare member of the Whicher flora.

TAXONOMY

Petrophile latericola G.J. Keighery species nova (Figure 1 and 2).

Differt a *Petrophile brevifoliae* statura majorae, pauci-ramosus, sine lignotuber.

Typus: Abba Block, Whicher Escarpment, 09-Nov.-1990, G.J. Keighery 11790 (Holo: PERTH 03202372, iso: to be distributed).

A slender erect few branched *shrub* without a lignotuber to 1.5 m. tall. Branchlets and leaves glabrous. Leaves simple, terete, straight, 3–4 cm long, terminating in pungent point ca 1 mm long. Inflorescence globose, terminal sessile, 10–15 mm diameter containing 15–35 flowers. Involucral bracts numerous, curved at apex, linear–subulate, cone scales narrowly ovate, acute, imbricate, glabrous. Flowers 16–

20 mm long, bright yellow, villous. Pollen presenter 5 mm long, narrowly top shaped, truncate below the brush, glabrous, brush 2 mm long, narrowly cylindrical, short and spreading, hirsute with a glabrous tip. Cones globose, 10 mm long. Nuts ca 3 mm long with short hairs on the body and dense long basal and marginal hairs.

Other Collections examined. Abba Block, 16-Oct.-1992, B.J. Keighery and Gibson 733 (PERTH), Abba Block, 9-Nov.-1992, B.J. Keighery and Gibson 685 (PERTH), Abba Block, 19-Nov.-1996, A.Webb 026 (PERTH), Abba Block, 15-Mar.-1994, J.A. Cochrane 1018 (PERTH),

East of Ruabon, 20-Nov.-1989, G.J. Keighery 11355 (PERTH), East of Ruabon, 28-Feb.-2000, M. Soutar 10 (PERTH).

Distribution and Habitat. This species grows only in heath or *Dryandra squarrosa* subsp. *argillacea* shrubland on shallow red/brown clays over laterites along the base of the Whicher Range. This corresponds to the southern ironstone community of Gibson *et al.* (1994) which has been almost entirely cleared for agriculture and is now listed as a threatened ecological community.

Conservation status. Only two populations of this species are known, both threatened by Dieback (*Phytophthora cinnamomi*)



Figure 1. Habit of *Petrophile latericola*

and it is declared rare flora as *Petrophile latericola* ms. under the Wildlife Conservation Act. The species is considered critically endangered.

Notes. Like many endemics of the Busselton Ironstones this species regenerates from seed following fires and will flower the second spring after a fire.

DISCUSSION

This species is part of the *Petrophile brevifolia* complex which occurs widely in southern Western Australia from Kalbarri to Ongerup. However, the populations of this species

around Busselton are disjunct from the main range of that species which ends on the Swan Coastal Plain at Perth. The Busselton populations occur in a very distinctive habitat, like many other disjunct populations of plants in the Busselton area have diverged morphologically from the “normal” populations (Keighery *et al.* 2008, Webb *et al.* 2009). The species, unlike its close relative *Petrophile brevifolia* lacks a lignotuber and is killed by fire. In the wild and in cultivation plants have a tall slender few – branched habit (up to 1.5 metres in cultivation) and do not produce a lignotuber. The bright yellow flowers (Figure 1 and 2)



Figure 2. Inflorescences of *Petrophile latericola*

compared to the pale yellow to almost creamy-white flowers of normal *P. brevifolia* (Foreman 1995) are also distinctive.

These characters separate *P. latericola* from all other co-occurring members of the genus (Wheeler *et al.* 2002). Current studies on the genetics of the *Petrophile brevifolia* complex have shown that *P. latericola* is distinct from all other members (M. Moody pers.com.).

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